

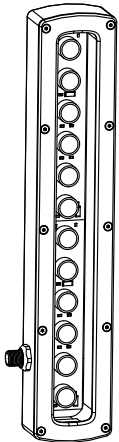
Sealed Linear Array Lights



Datasheet

IP68 Lighting for use with Vision Systems in washdown environments

For the latest technical information about this product, including specifications, dimensions, and wiring, see www.bannerengineering.com/lineararraylights



- Four high-intensity, visible wavelengths, plus IR and UV
- Rugged, waterproof housing, rated IEC IP68
- The following array lengths are available:
 - 290 mm (11.4 in)
 - 435 mm (17.7 in)
 - 580 mm (22.8 in)
- High-power, solid-state LED array; continuous or strobed operation is selectable via sensor software (P4 models) or via hookup
- Optically isolated strobe signal
- Active High or Active Low strobe models available
- Available with 316 stainless steel or nickel-plated aluminum housing
- LEDs directly illuminate target
- Lens angle of $\pm 6.5^\circ$ on visible and IR models, lens angle of $\pm 5^\circ$ on UV 395 nm models, reflector cup angle of $\pm 15^\circ$ on UV 365 nm models
- Three window materials from which to choose: clear acrylic, clear glass, and clear diffusing acrylic
- Maintenance-free, rugged construction
- Built-in constant current regulation
- Very even light pattern as close as 76.2 mm (3 in)

Model Key

Light Source	LED Color	Linear Array	Array Length	Housing	Window ¹	Relative Intensity	Intensity Control	Connector
LED	R	LA	290	A	P	6 —	X	Q
	R = Red W = White B = Blue G = Green I = IR UV365 = UV365 nm UV395 = UV395 nm		290 mm 435 mm 580 mm	A = Aluminum SS = Stainless Steel	P = Clear Plastic G = Glass D = Diffuse Plastic		X = Not Adjustable	Q = QD

The following caution applies to UV365 nm models:



CAUTION:

Risk Group 1: UV Emitted from this product.

Minimize exposure to eyes or skin. Use appropriate shielding and eye protection. Risk Group 1 (RG 1) products are safe for most use applications, except for very prolonged exposures where direct ocular exposures may be expected.

- IEC 62471

The following caution applies to UV395 nm models:

¹ UV365 is only available in models with a glass window.



**CAUTION:****Risk Group 2: UV Emitted from this product.**

Eye or skin irritation may result from exposure. Use appropriate shielding and eye protection. Risk Group 2 (RG 2) products generally do not pose a realistic optical hazard if aversion responses limit the exposure duration or where lengthy exposures are unrealistic.

- IEC 62471

Wiring

Wire Purpose	Cable Wire Color ²	Continuous On Mode	Strobed Mode	<i>PresencePlus Pro</i> Controller Terminal Block
Power Wires	Brown (1)	+24 V dc	+24 V dc	Pin 01 ³
	Blue (3)	common	common	Pin 02
Strobe Polarity Control	Gray (5)	open	Active Low: open	Pin 02
			Active High: connect to common (Blue wire)	
Strobe Voltage Wires	White (2)	open	0 V dc = ON (Active Low) +5 V dc to 24 V dc = OFF (Active Low)	Pin 04
			0 V dc = OFF (Active High) +5 V dc to 24 V dc = ON (Active High)	
	Black (4)	open	Strobe common	Pin 02

Figure 1. Pinouts for Mating Cable



Note: Connection to earth ground recommended.

Specifications

Supply Voltage and Current

290 mm Models: 24 V dc \pm 10% at 1 A maximum

435 mm Models: 24 V dc \pm 10% at 1.5 A maximum

580 mm Models: 24 V dc \pm 10% at 2 A maximum

Strobe Voltage: 5 V dc to 24 V dc

Built-in constant current regulator for LEDs

Use only with a suitable Class 2 power supply (UL) or SELV power supply (CE)

Light Source

LED Color	Wavelength
Infrared	850 nm
Red	620 nm to 630 nm
Blue	465 nm to 485 nm
Green	520 nm to 535 nm
White	5000 K to 8300 K
UV	365 nm
	395 nm

Operating Conditions

0 °C to +50 °C (+32 °F to +122 °F)

Connections

Integral 5-pin M12/Euro-style quick disconnect, accessory cordset required

Construction

Housing: nickel-plated aluminum or 100% 316 stainless steel, depending on model

Window: acrylic or glass, depending on model

Mounting

(4) 1/40K"-20 threaded holes in back; brackets available

Useful Life

When operated within specifications, output will decrease less than 30% after 50,000 hours for visible and IR models; 20,000 hours for UV models

Environmental Rating

IEC IP68

Certification

² For Banner-supplied wire.

³ When connecting the light to a *PresencePLUS* Pro controller terminal block, the controller supply must be 24 V dc \pm 10%.

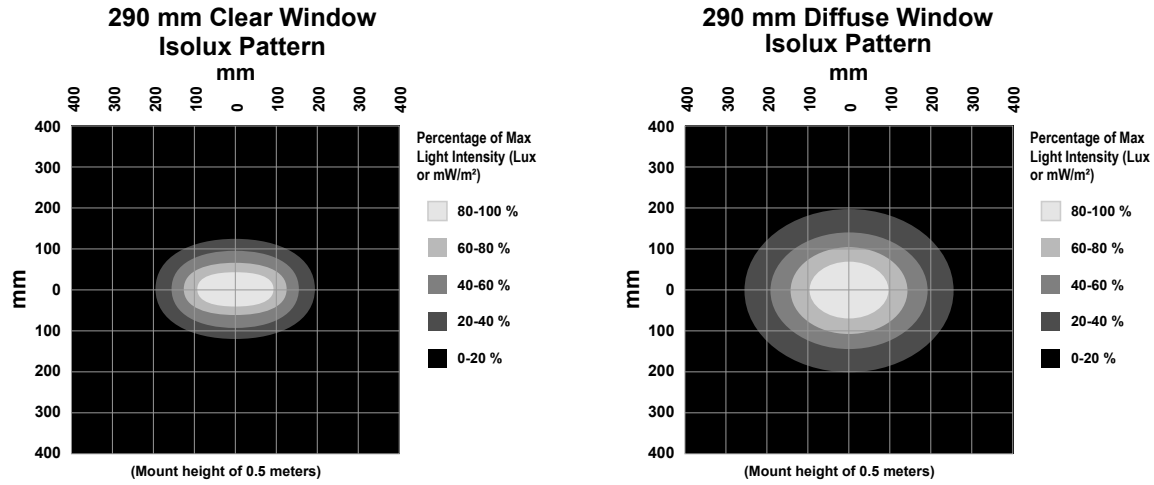
Optical Data

Light Characteristic: Clear and Diffuse Window

Values shown are typical @ 25°C.

Lighted Length (mm)	Lumens				mWatts		
	Cool White	Green	Red	Blue	IR	UV395	UV365
290	1160	890	550	410	1790	2330	1220
435	1740	1335	825	615	2685	3495	1830
580	2320	1780	1100	820	3580	4660	2440

290 mm Models



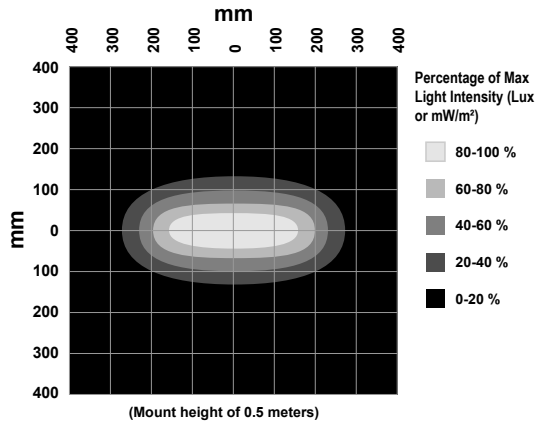
Lux and irradiance values shown are typical at 25 °C and with clear windows; light intensity lowered by 40% on diffuse window models.

Distance (m)	Max Center Beam Lux (lux)				Max Center Beam Irradiance (mW/m²)			Beam Width (m)	
	Cool White	Green	Red	Blue	IR	UV395	UV365 ⁵	Vertical (Spread 13.8°)	Horizontal (Spread 21.4°)
0.25	45,220	34,695	21,441	15,983	69,779	90,830	47,559	0.06	0.09
0.50	23,420	17,969	11,104	8,278	36,139	47,042	24,631	0.12	0.19
1.00	8,930	6,851	4,234	3,156	13,780	17,937	9,392	0.24	0.38

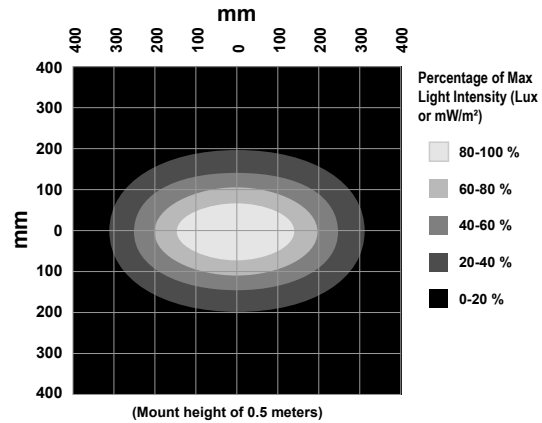
⁴ Only available in sealed model with glass window.
⁵ Only available in sealed model with glass window.

435 mm Models

435 mm Clear Window Isolux Pattern



435 mm Diffuse Window Isolux Pattern

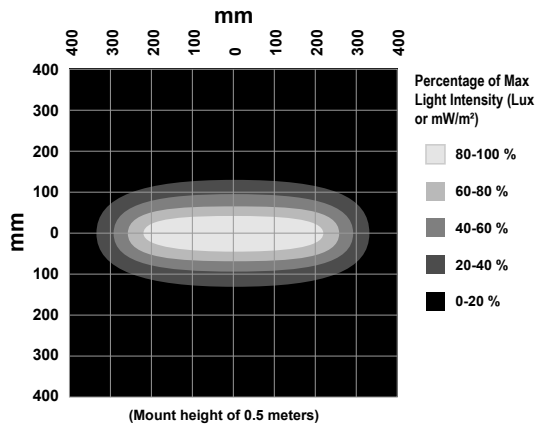


Lux and irradiance values shown are typical at 25 °C and with clear windows; light intensity lowered by 40% on diffuse window models.

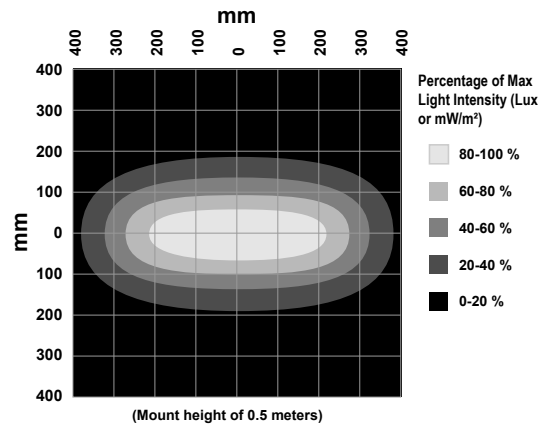
Distance (m)	Max Center Beam Lux (lux)				Max Center Beam Irradiance (mW/m²)			Beam Width (m)	
	Cool White	Green	Red	Blue	IR	UV395	UV365 ⁶	Vertical (Spread 13.8°)	Horizontal (Spread 21.4°)
0.25	45,220	34,695	21,441	15,983	69,779	90,830	47,559	0.06	0.09
0.50	23,420	17,969	11,104	8,278	36,139	47,042	24,631	0.12	0.19
1.00	9,740	7,473	4,618	3,443	15,030	19,564	10,244	0.24	0.38

580 mm Models

580 mm Clear Window Isolux Pattern



580 mm Diffuse Window Isolux Pattern



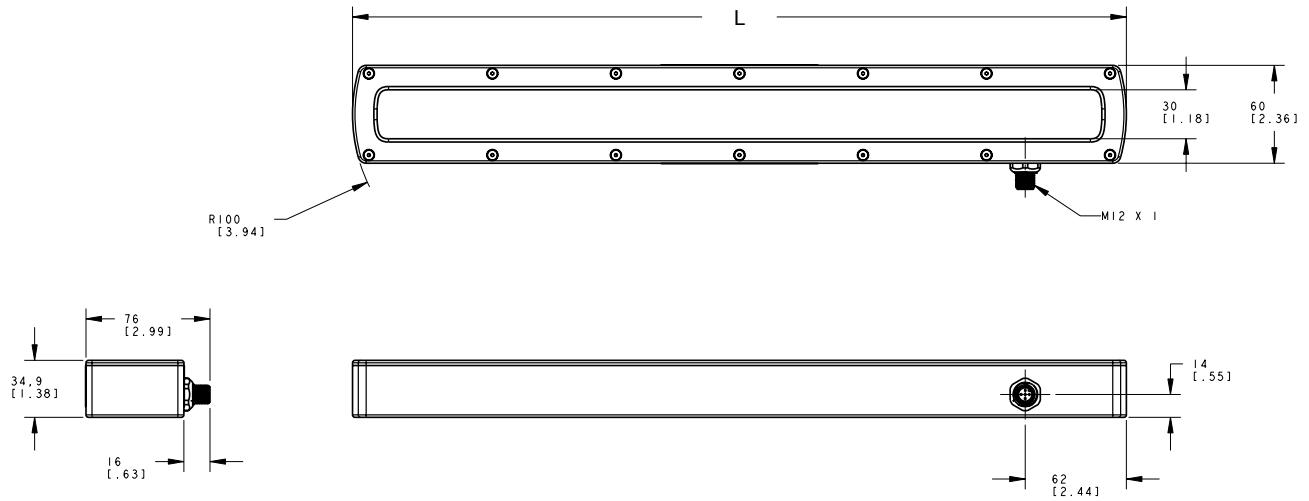
Lux and irradiance values shown are typical at 25 °C and with clear windows; light intensity lowered by 40% on diffuse window models.

Distance (m)	Max Center Beam Lux (lux)				Max Center Beam Irradiance (mW/m²)			Beam Width (m)	
	Cool White	Green	Red	Blue	IR	UV395	UV365 ⁷	Vertical (Spread 13.8°)	Horizontal (Spread 21.4°)
0.25	45,220	34,695	21,441	15,983	69,779	90,830	47,559	0.06	0.09
0.50	23,420	17,969	11,104	8,278	36,139	47,042	24,631	0.12	0.19
1.00	11,550	8,862	5,476	4,082	17,823	23,200	12,147	0.24	0.38

⁶ Only available in sealed model with glass window.
⁷ Only available in sealed model with glass window.

Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise.



Array Length	Length "L"
290 mm	328 mm (12.91 in)
435 mm	474 mm (18.66 in)
580 mm	621 mm (24.45 in)

Accessories

Cordsets

5-Pin Threaded M12/Euro-Style Cordsets				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC20-506	1.83 m (6 ft)	Straight		<p>1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray</p>
MQDC20-515	4.57 m (15 ft)			
MQDC20-530	9.14 m (30 ft)			

5-Pin Threaded M12/Euro-Style Cordsets—Stainless Steel Nut				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC20SS-506	1.83 m (6 ft)	Straight		<p>1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray</p>
MQDC20SS-515	4.57 m (15 ft)			
MQDC20SS-530	9.14 m (30 ft)			

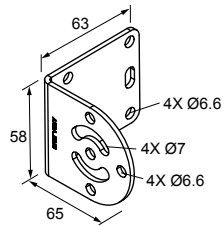
Accessory Brackets

SMBLASRA

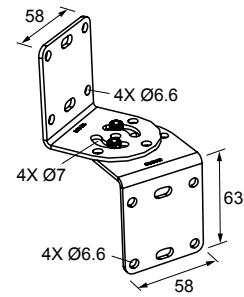
- Right-angle metal bracket
- May be used individually or two used in combination to provide swivel adjustment
- Brackets and hardware are 316 stainless steel
- Includes: 2 brackets; 4 ¼-20 stainless steel screws (socket drive, button head); 2 stainless steel lock nuts (used only with double brackets); and 2 stainless steel washers (used only with double brackets)

When double-bracket mounting is used, order 2 sets of brackets per light.

Single Bracket:



Double Bracket:



Filters (Optional)

Light filters are available in red, white, blue, green, infrared, and other options. Visit <http://www.bannerengineering.com> to determine which filter is best for your application and Vision system.

Replacement Windows

Array Length	Clear Glass	Clear Acrylic	Diffuse Acrylic	White Diffuse Acrylic
290 mm	LEDLA290SW-G	LEDLA290SW-P	LEDLA290SCDW-P	LEDLA290SVDW-P
435 mm	LEDLA435SW-G	LEDLA435SW-P	LEDLA435SCDW-P	LEDLA435SVDW-P
580 mm	LEDLA580SW-G	LEDLA580SW-P	LEDLA580SCDW-P	LEDLA580SVDW-P

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